819 Huntington Drive
Highlands Ranch, CO 80126

March 15, 2005

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street NW
Washington, D.C. 20664

RE: Federal Communications Commission ("FCC") Dockets WC No. 03-266 & 04-36 – March 4, 2005 Ex Parte Filing from Dr. William E. Taylor and Dr. Timothy Tardiff of National Economic Research Associates, Inc. ("NERA").

Dear Ms. Dortch:

Please consider this letter to be QSI Consulting, Inc.'s ("QSI's") response to the above listed Ex Parte filing.

On March 4, 2005, NERA made a filing ("NERA's Filing") in which it addressed at the request of United States Telecom Association ("USTA") the QSI report *IP-Enabled Voice Services: Impact of Applying Switched Access Charges to IP-PSTN Voice Services* filed in the above mentioned docket on January 27, 2005 ("QSI's Report"). In its filing, NERA made a number of modifications that upon further review were unsupported and misguided. The result of those modifications is to significantly and incorrectly inflate the impact of applying switched access to IP-PSTN voice services.

SUMMARY

At a high level, NERA's proposed adjustments to the QSI Report fail for the following reasons:

- NERA proposes the application of a blended intrastate/interstate access rate for IP-PSTN traffic. There is no legal or economic support for this adjustment. The FCC's recent *Vonage Order*[1] ruled that such traffic is interstate in nature.

[1] *In the Matter of Vonage Holdings Corporation Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, WC Docket No. 03-211. Memorandum and Opinion, released November 12, 2004 ("*Vonage Order*").

- NERA incorrectly includes in its impact calculations IP-PSTN traffic that would **not** be contributing to ILEC intercarrier compensation revenues, such as traffic between VoIP customers on the one hand, and CLEC, wireless and dedicated connections on the other hand.

- NERA improperly expanded the context and scope of the study beyond intercarrier compensation to include subscriber line charge ("SLC") and local line revenues, as well as switched access revenues on winback access lines. NERA failed to provide a properly expanded context (which is necessary to compare **affected** and **total** SLC and local revenues). Further, NERA incorrectly assumed that IP-Enabled Voice services and switched access lines are perfect substitutes, despite a recent FCC decision finding that these services are not substitutes but rather supplements.[2] Finally, by counting winback revenues NERA improperly included **secondary effects of competition**, rather than the **direct impact of regulatory change** as calculated in the QSI Report.

- Two of NERA's adjustments are mutually contradictive: one assumes that a change in wholesale compensation prices **would not** have any effect on end-user demand, while another adjustment assumes that such change **would** have an effect on end-user demand. NERA's inability to choose between these two mutually exclusive assumptions makes even less valid NERA's inclusion of winback SLC and local line revenues – because the "winback SLC/local line revenue" adjustment is based on one of these mutually exclusive assumptions.

QSI stands behind its original estimates and concludes that NERA failed to show that QSI's original estimates of the impact of applying access to non-local voice IP-PSTN traffic are too low. Based on NERA's critique of QSI's study, QSI further concludes that its study provides a conservative estimation of the potential impact associated with the FCC's decision on the Level 3 Forbearance Petition.

INTRODUCTION

This response provides QSI's analysis of each of NERA's adjustments that led to the erroneous and significant increase in the estimated impact of applying switched access to IP-PSTN voice services. QSI groups these adjustments into six categories (discussed in detail below), but notes that only the first four adjustments constitute NERA's so-called "base case." It remains unclear why the other two groups of NERA adjustments were introduced outside the base case. QSI does not address other assertions made in NERA's Filing such as fraud and rural access because these issues lie outside the scope of QSI's study.[3] Finally, for illustrative purposes QSI follows NERA's method of providing the dollar estimates associated with the impact of applying switched access charges to IP-

[2] *Triennial Review Order on Remand*, WC Docket No. 04-313, CC Docket No. 01-338 released on 2/4/2005, footnote 118.

[3] As explained on page 2 of QSI's Report, the purpose of QSI's study was to estimate the impact of applying different intercarrier compensation regimes on traffic subject to Level 3 Forbearance Petition, which covers only non-rural carriers.

PSTN voice services for the last year of the planning period of the study, but notes that the estimated impact would be lower in each preceding year, which is driven by high annual growth rates in Voice over Internet Protocol ("VoIP") subscribership.

DESIGN FLAWS OF NERA'S STUDY

NERA's Filing Lacks Relevant Context

Despite its representations, the NERA Filing is not a "correction" of the QSI's model but a new model because it lacks the context and perspective provided by QSI's Report. Specifically, it does not compare the estimated impact of the regulatory change to the relevant *total* ILEC revenues. For example, half of the increased impact in the NERA Filing is attributable to the inclusion Subscriber Line Charges and local line revenues. However, NERA fails to establish a context for the *affected* SLC and local revenue – a measure of *total* SLC and local revenues (which are significantly higher than total switched access revenues[4] – the focus of QSI's study). Given these flaws, NERA's results cannot be properly evaluated.

NERA's Modifications to QSI's Report Are Inconsistent

The design of NERA's spreadsheet and the cumulative (sequential) representation of each of NERA's modifications misrepresent the individual effects of each modification and result in mutual contradictions between individual modifications. Two of NERA's modifications are mutually contradictive with regard to demand. One of the modifications that comprise NERA's base case is grounded in NERA's claim that a change in intercarrier compensation regime for IP-PSTN voice services *would not* have any effect on end-user VoIP demand (modification labeled "no stimulation").[5] A subsequent modification[6] – contributing to the total impact as quoted in paragraph 17 of NERA's Filing – consists of the opposite assumption, specifically that a change in intercarrier compensation regime for IP-PSTN voice services *would* have an effect on end-user VoIP demand. As such, NERA's own assumptions belie its "no stimulation" hypothesis.

NERA also contradicts itself with respect to the appropriate compensation for VoIP traffic. NERA criticizes QSI's Report for using an "interstate-only" rate for the scenario in which switched access is applied to IP-PSTN voice traffic rather than a higher, "blended" interstate/intrastate access rate advocated by NERA.[7] However, in a subsequent section,

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4 According to ARMIS 43-03, 2003 total for all RBOCs, switched access service (row 5082) constituted $7.2 billion (which is the context of QSI's Report). In contrast, end-user access revenues account for another $11 billion (row 5081), and basic area revenue – additional $32 billion (row 5001). In other words, a proper context for NERA's modified study that included SLC and local service revenues would be the sum of switched access, end-user access and basic area revenues, which is $50.2 billion.

5 NERA's Filing, ¶¶32-33.

6 NERA's Filing, ¶43. This modification is not part of NERA's "base case."

7 NERA's Filing, ¶27.

NERA uses the interstate-only access rate instead of the blended access rate when calculating additional costs on VoIP providers stemming from the imposition of the access regime.[8] Again, NERA is inconsistent within its own study.

As discussed above, NERA's first modification to QSI's analysis is the use of a higher, "blended" intrastate/interstate access rate (instead of an interstate-only rate) for the scenario where access applies to IP-PSTN voice traffic. As QSI explains below, NERA's use of the blended access rate is simply not supported by policy or law, yet this modification exaggerates the impact of NERA's other modifications. If we remove NERA's first modification, the effects of subsequent modifications are reduced by approximately half. For example, the total impact of NERA's base case drops from NERA's original estimate of $980 million[9] in 2008 to $466 million in 2008 by correcting for this single flaw in NERA's analysis.[10] Further, if we remove from NERA's base case the contradictive "no stimulation" assumption,[11] the base case impact drops to only $278 million in 2008 – which is roughly comparable to QSI's original estimate of $214 million in the same year.

NERA'S NUMERICAL MODIFICATIONS TO QSI'S REPORT SHOULD BE REJECTED

I. The Compensation Regime That Better Describes The Scenario Where Access Is Applied to VoIP Traffic Is Interstate Access Rates – Not a Blended Intrastate/Interstate Access Rate (NERA's Base Case Modification "Blended Access Rate").

NERA criticizes the QSI's Report for assuming that if access charge system is applied to VoIP traffic, only interstate access rates would apply to non-local VoIP traffic. NERA claims that "[a] more accurate measure would apply a weighted-average of the ILEC intrastate and interstate rates to this traffic."[12] NERA goes on to claim that "many carriers today pay interstate and intrastate access charges on VoIP traffic they terminate on the PSTN."[13] Based on these assertions, NERA modifies QSI's model by applying a blended intrastate/interstate access rate to all non-local minutes, thereby increasing the measured impact in 2008 by $343 million.[14]

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8 Footnote 18 to ¶32 of NERA's filing. NERA uses this calculation to support its "no stimulation" hypothesis.

9 NERA's Filing, Figure 1, p. 21.

10 This number was generated by correcting NERA's spreadsheet to apply interstate access rate to the scenario where access applies to IP-PSTN traffic.

11 This number was generated by running NERA's scenario 4 and correcting NERA's spreadsheet to use interstate access rate for the scenario where access applies to IP-PSTN traffic.

12 NERA's Filing, ¶27.

13 NERA's Filing, ¶3 and ¶8.

14 NERA's Filing, ¶¶10-11 and Figure 1, p. 21.

NERA's revisions to QSI's model and the reasoning behind those revisions are simply not supported by FCC policy and current compensation practices, and should be rejected. First, QSI made its assumption – an assumption that only the interstate, rather than a mix of interstate and intrastate rates, is relevant to the scenario where access is applied to IP-PSTN non-local voice traffic – because the FCC has already preempted state authority over IP-PSTN and PSTN-IP calls. The FCC stated in the *Vonage Order*[15]

> We find that the characteristics of DigitalVoice preclude any practical identification of, and separation into, interstate and intrastate communications for purposes of effectuating a dual federal/state regulatory scheme, and that permitting Minnesota's regulations would thwart federal law and policy.[16]
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> ***
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> Moreover, for services having the same capabilities as DigitalVoice, the regulations of other states must likewise yield to important federal objectives. To the extent other entities, such as cable companies, provide VoIP services, we would preempt state regulation to an extent comparable to what we have done in this Order…In particular the provision of tightly integrated communications capabilities greatly complicates the isolation of intrastate communications and counsels against patchwork regulation.[17]

As explained in QSI's Report,[18] the IP-PSTN traffic subject to QSI's analysis and Level 3 Forbearance Petition is consistent with the FCC's description of "tightly integrated communications capabilities" at ¶32 of the *Vonage Order*. The *Vonage Order* makes clear that states are preempted from regulating VoIP services similar to DigitalVoice, and as such, it is entirely reasonable to assume that *if* the FCC applies access to IP-PSTN traffic, ***inter***state and not ***intra***state access would apply.

Second, NERA's claim that "many carriers today pay interstate and intrastate access charges on VoIP traffic they terminate on the PSTN"[19] is not only incorrect[20] and unsupported by NERA, but also irrelevant. As QSI explained above, if the FCC is to rule in favor of access charges for VoIP traffic, the *Vonage Order* makes clear that interstate charges, not intrastate charges, would apply. Similarly, if the FCC is to rule in favor of Level 3 Petition, reciprocal compensation would apply to VoIP traffic. In other words, the

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15 *In the Matter of Vonage Holdings Corporation Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, WC Docket No. 03-211. Memorandum and Opinion, released November 12, 2004 ("*Vonage Order*").

16 *Vonage Order*, ¶14.

17 *Vonage Order*, ¶46.

18 QSI Report, footnote 9, p. 2.

19 NERA's Filing, ¶3and ¶8.

20 VoIP providers have generally taken the position that they are information service providers, and, as such, they use tariffed business services to connect with a PSTN carrier (usually a CLEC) who then exchanges with other carriers traffic bound for a customer not served by that LEC. When the LEC serving the VoIP provider exchanges traffic with another LEC or CMRS carrier, that traffic is subject to reciprocal compensation payments made between the originating and terminating carrier based upon interconnection agreements. Accordingly, reciprocal compensation applies to this traffic.

proper comparison is between one scenario where reciprocal compensation applies to IP-PSTN traffic, and another scenario where ***inter***state access charges apply to IP-PSTN traffic. Moreover, not only does NERA fail to provide any evidence in support for its claim that VoIP carriers pay both interstate and intrastate access rates today, NERA's assumption is inconsistent with industry sources. For instance, in its October 5, 2004 Ex Parte Brief filed in CC Docket 01-92, the Intercarrier Compensation Forum (of which SBC Communications – one of the largest ILECs in the nation - is a member) states as follows:

> The amount that the largest wireline LECs collect in access charges has been shrinking as more traffic leaves the wireline network and is carried by CMRS and VoIP providers. This migration of traffic is occurring in part *because* regulatory disparities provide these service providers with significant cost advantages over carriers that must pay access charges.[21]

As such, it was correct for QSI to assume for the purposes of its model that reciprocal compensation is the prevalent current compensation regime for IP-PSTN traffic that is subject to the Level 3 Forbearance Petition,[22] and that if the FCC is to rule in favor of access charges for VoIP traffic, only interstate access rates would apply to non-local IP-PSTN traffic. Thus, NERA's modifications to QSI's model related to this issue should be rejected.

II. QSI Properly Adjusted VoIP Traffic Levels to Account for CLEC, Wireless and Special Access Lines, and NERA's Criticisms to the Contrary Should Be Rejected (NERA's Base Case Modification "Special Access, Wireless and CLEC Lines").

The VoIP growth forecast relied upon by QSI in developing its model and Report included all lines, even those that are replacing special access service. QSI's Report and model reduced VoIP forecasted line counts because a portion of VoIP traffic is associated with services other than ILEC switched access services. Such traffic should not be used in a study that focuses on the change in ILEC non-local intercarrier compensation revenues stemming from application of switched access charges to IP-PSTN voice services.

NERA claims that QSI's adjustment is invalid because calls originating on special access, competitive local exchange carriers ("CLEC") and mobile lines generate switched access or reciprocal compensation on the terminating side of calls from these lines.[23] NERA modifies the impact calculations to remove QSI's original adjustment, thus inappropriately estimating total VoIP traffic without removing traffic associated with special access, CLEC

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21 *In the Matter of Developing a Unified Intercarrier Compensation Regime, CC Docket No. 01-92, Ex Parte Brief of the Intercarrier Compensation Forum In Support of the Intercarrier Compensation and Universal Service Reform Plan*. October 5, 2004 at 19.

22 This statement does not cover PSTN to VoIP calls where PSTN customer initiates the call by dialing long-distance access code. As QSI explained in its Report, such traffic was excluded from QSI's study.

23 NERA's Filing, ¶¶30-31.

and wireless lines. NERA's modification results in a $356 million increase in the estimated impact in 2008.[24]

It is evident from NERA's Filing that NERA did not fully understand QSI's adjustment, and therefore NERA's criticism is misplaced.[25] QSI does not dispute that *some* calls from special access, CLEC and wireless lines terminate on PSTN. However, the purpose of QSI's adjustment was to remove VoIP calls that neither originate, nor terminate on the ILEC PSTN. In other words, this adjustment captures *leakages* from the universe of VoIP minutes that would be subject to ILEC switched access charges under a scenario where switched access rates apply to IP-PSTN voice traffic. Such leakages occur, for example, when a non-local call is made to a CLEC PSTN customer, in which case a terminating access charge – if applicable – would be paid to the CLEC, not an ILEC. Similarly, a non-local call between two corporate locations connected via special access facilities would not be subject to switched access charges. A non-local call between a landline PSTN customer and a wireless customer would likely generate less access revenues to ILECs than a non-local call between two landline ILEC PSTN customers simply because in the first case (PSTN-wireless call) the wireless side of the call represents leakage of traffic from landline PSTN to wireless network.[26]

As a result of NERA's modification, no recognition is given to the above described leakages from the landline ILEC PSTN system. An extreme hypothetical case best describes the main flaw in NERA's adjustment: One extreme is to assume that CLEC local PSTN market share is 100%. In this case a call made from a VoIP line to the PSTN would necessarily terminate on a CLEC network, producing zero intercarrier compensation revenues to ILECs. If we consider an opposite extreme case – the ILEC market share is 100% – then ILECs, rather than CLECs, would collect all intercarrier compensation revenues on IP-PSTN voice calls, and CLECs would receive nothing. However, in both cases NERA's modification attributes all intercarrier compensation revenues to the ILECs, despite the fact that in the first case ILECs receive zero access revenues. Intuitively, the higher the CLEC market share in switched access lines, the greater is the leakage of ILEC switched access traffic (or VoIP traffic substituting PSTN switched access traffic) to CLEC PSTN customers. QSI's incorporation of CLEC market share of total access lines appropriately captures this leakage.

Similarly, consideration should be given to VoIP lines that substitute special access line service. For instance, VoIP technology might be used exclusively to serve internal corporate communications needs. Besides such "closed" networks, VoIP lines are a likely substitute for special access lines serving inbound-only call centers, which should not be included in QSI's study because the Level 3 Forbearance Petition excludes "1+" calls made from PSTN to VoIP. It is important to note that as described in QSI's Report, QSI's model

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[24] NERA's Filing, Figure 1, p. 21.

[25] QSI concedes that the description of this adjustment in QSI's report might be somewhat brief, and that for better clarity, QSI should not have grouped the three somewhat different cases – special access, wireless and CLEC lines – together.

[26] We ignore here the differences in compensation systems for simplicity.

excluded only a portion of enterprise VoIP lines,[27] thus recognizing that the remaining enterprise VoIP lines would be generating calls to or from PSTN customers.

NERA's modification to QSI's analysis regarding wireless subscribers should be similarly rejected. QSI continues to insist that an adjustment for wireless leakage is necessary: What needs to be removed from the impact analysis is not the traffic that the wireless industry lost to VoIP, but the traffic between VoIP and wireless customers (as opposed to traffic between VoIP and ILEC PSTN). As in the situation with CLEC lines, the higher the proliferation of wireless calling, the higher is the probability that a VoIP call would be directed to a wireless, rather than a wireline number, thus creating a leakage from the universe of minutes that generate revenues for the ILECs. NERA's criticism of QSI's analysis only has merit to the extent that wireless subscribers migrating to VoIP do not properly account for leakages from the universe of VoIP minutes that would be subject to ILEC switched access charges under a scenario where switched access rates apply to IP-PSTN voice traffic.

Nevertheless, NERA's criticism not only affirms QSI's position that an adjustment for wireless leakage is necessary, but suggests that QSI's original numerical adjustment – a mere 5% reduction[28] – was too conservative. As QSI estimated in its model, approximately 36% of all interstate minutes of use in 2003 were attributable to the wireless industry[29] (and the remainder – to wireline PSTN). The FCC's actual data show that the number of wireless subscribers in the United States is approximately the same as the number of ILEC access lines.[30] This evidence suggests that there is a high probability that a VoIP to PSTN or PSTN to VoIP call would involve a wireless, rather than wireline provider on the PSTN side, meaning that this traffic would not generate intercarrier compensation revenues for ILECs, and should be removed from the analysis.

Finally, QSI notes that its study did not account for another important leakage from the PSTN system, namely VoIP to VoIP calls, resulting in an over-statement of total impact. The probability of such calls increases as the number of VoIP lines increases, and since VoIP lines grow dramatically during the study period of QSI's analysis, so does this overstatement.

Based on the above rationale, NERA's modifications should be rejected. In addition, NERA's criticism reveals two areas where assumptions within QSI's model were too

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27 As described in footnote 38, page 20 of QSI's Report, QSI removed 50% of enterprise VoIP lines from its study assuming – for the lack of better data – that this portion reflects the number of lines that do not generate PSTN traffic subject to Level 3 Petition, and kept the remaining 50% in the study.

28 User-adjustable Input # 1 in QSI VoIP Impact Model (Attachment 1 to QSI Report), Tab *User-Adjustable Inputs.*

29 QSI VoIP Impact Model (Attachment 1 to QSI Report), Tab *Composition of MOU*, cell F40.

30 *Statistics of Communications Common Carriers*, released on October 12, 2004 reported the number of ILEC access lines as approximately 160 million for end of year 2003 (Table 5.1), and wireless subscribers as ranging between 157 and 160 million, depending on the source (Table 5.6). See also a recent release indicating that U.S. cell phone subscribers topped 180 million in 2004. http://news.com.com/U.S.+cell+tally+180+million+users+and+counting/2110-1039_3-5615778.html

conservative, resulting in an over-estimation of the impact. First, QSI's numerical adjustment designed to account for wireless leakage is likely to be too conservative given the proliferation of wireless calling. Second, QSI's model should have removed from the impact calculation "VoIP to VoIP" traffic, which resulted in further over-statement of the impact, particularly towards the end of the planning period of the study.

III. QSI's Assumption That Access Charges Apply to the DSL Broadband End Of An IP-PSTN Call Under The Scenario That Access Applies To IP-PSTN Traffic Demonstrates the Conservative Nature of QSI's Analysis (NERA's Base Case Modification "No Access on DSL Side")

NERA suggests that QSI's model incorrectly assumed that if access rates apply to VoIP traffic, ILECs would collect interstate access charges on the broadband (*i.e.*, Digital Subscriber Line or "DSL") end of the IP-PSTN call.[31] NERA suggests that, "there is no difference in a DSL-based or a cable-based VoIP service as far as the ability of the ILEC to assess access charges on the broadband end of the traffic" and that "switched access charges are generally thought not to apply to the broadband end of VoIP to PSTN traffic." NERA modified the impact calculations to accommodate its suggestion. This modification *reduces* the estimated impact of applying access to VoIP traffic (mitigating NERA's other adjustments). The reduction is $206 million in 2008.[32]

NERA's criticism only serves to highlight the conservative nature of QSI's analysis. There is considerable uncertainty in the marketplace related to the hypothetical scenario whereby the FCC applies access to IP-PSTN traffic. Due to this uncertainty, QSI conservatively assumed that ILECs would receive both originating and terminating access charges for a DSL-based IP-PSTN call and would receive only one charge for a cable-based IP-PSTN call.

NERA, on behalf of the USTA, appears to state for the record that ILECs would not apply access charges on the broadband end of an IP-PSTN call. Indeed, NERA states that, from a technical standpoint, ILECs could not apply access on the broadband end of the IP-PSTN call because ILECs "have no way of distinguishing VoIP traffic from any other type of Internet traffic."[33] However, past actions of ILECs with regard to IP-PSTN traffic indicate that ILECs do undertake efforts to identify this traffic. [34] Accordingly, QSI believes that its original assumption is conservatively reasonable. However, if one takes at face value NERA's claims that ILECs will not and cannot apply access to the broadband end of an IP-PSTN call should the FCC apply access to this traffic, NERA's proposed downward adjustment would be reasonable.

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31 NERA's Filing, ¶11.

32 NERA's Filing, Figure 1, p. 21.

33 NERA's Filing, ¶11.

34 For instance, SBC Communications has in numerous state public utility commission arbitration proceedings argued that competitors should be required to route IP-PSTN traffic over separate feature group D trunk groups to which access charges would apply.

IV. VoIP Intercarrier Compensation Regime Will Affect VoIP End-User Demand, And Therefore NERA's "No Stimulation" Modification Should be Rejected (NERA's Base Case Modification "No Stimulation").

QSI's study assumed that a change in intercarrier compensation regime for VoIP traffic would be reflected in the end-user VoIP prices, thus a shift from reciprocal compensation to access regime would suppress VoIP demand. NERA argues that the change in wholesale prices is small (approximately $2 according to NERA[35]) when compared to VoIP product offerings, and thus, will not be passed onto consumers. NERA's modification results in a $273 million increase in the estimated impact in 2008.[36]

QSI disagrees with NERA's "no stimulation" modification for a number of reasons. First, as discussed above, NERA reverses this modification in a subsequent modification (*see, infra.*, Section V). Second, QSI disagrees with NERA's unfounded description of the VoIP market as a market in a state of "disequilibrium" where providers earn abnormal economic profits.[37] Because VoIP markets are known to have low barriers of both entry and exit,[38] it is unreasonable (if not absurd) to imagine that "disequilibrium" or "abnormal profits" – even if observed at a particular moment – would be sustained during a number of years that constitute the study period of QSI's analysis (2005-2008). In fact, the growing number of VoIP providers and the recent price wars confirm that costs become increasingly important to this market.[39]

Third, as already explained above, NERA's calculation of additional intercarrier compensation costs under an access charge regime (calculation that uses the interstate access rate only) is simply inconsistent with NERA's own claim that the blended interstate/intrastate access rates would apply to such traffic. Moreover, this calculation does not account for additional costs associated with the implementation and administration of an access charge system for VoIP traffic, not to mention economic profit markup. Therefore, this modification should be rejected.

V. QSI Appropriately Accounted for Suppression Under An Access Regime, And Therefore NERA's Modification Should Be Rejected (NERA Modifications "Corrected Stimulation," "Include SLC" and "Include Retail Revenue").

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35 NERA's Filing, ¶8 and Footnote 18 to ¶32.

36 NERA's Filing, Figure 1, p. 21.

37 NERA's Filing, ¶32.

38 Atlantic ACM Report, *VoIP Revolution 2004-2009. The Opportunity. The Market. The Players*. October 2004 at 54.

39 See, for example, December 2004 article "Consumer VoIP Price War Heating Up" *By Charlotte Wolter* available at http://www.phoneplusmag.com/articles/4c1sound1.html. This article reviews a decline in VoIP prices and suggests that the currently available VoIP packages at $20 per month are likely to represent a price floor beyond which providers would not be able to make money.

QSI's Report and model assumed that an application of interstate access regime would suppress VoIP line growth and VoIP traffic compared to the scenario where VoIP providers pay reciprocal compensation, which mitigates the difference between total intercarrier compensation revenues from VoIP under the two QSI scenarios (VoIP under reciprocal compensation and VoIP under access). This suppression is implemented in QSI's model through two "suppression factors" – on VoIP lines and VoIP minutes per line. NERA argues that besides the direct negative impact of suppressing VoIP traffic, there will be an indirect positive impact on the ILECs from the winback of customers from VoIP. In order to account for such indirect effects, NERA includes in the total impact of applying switched access rates to VoIP certain revenues from winback lines, specifically access, SLC and local revenues. NERA's modification results in a $1,142 million increase in the 2008 impact compared to its base case (modifications I through IV).[40]

NERA's modifications are wrong for three primary reasons. First, NERA's modification is based on a false premise that VoIP lines and ILEC switched lines are "perfectly substitutable,"[41] and that a VoIP line or minute suppressed by higher prices is a line and minute gained by an ILEC. Such a premise goes against core economic principles, according to which total demand decreases as market price increases. If access is applied to VoIP traffic, end-user prices would increase, and total demand would decrease. For example, if a VoIP monthly package is priced at $25, a family might decide to buy a VoIP line for its teenage children in addition to the family's primary PSTN line. However, if the VoIP monthly package is $30, this family might decide against both the VoIP line and its alternative – a second PSTN features-loaded line. QSI's "suppression factors" are designed to reflect demand that would not exist if prices were higher – calls that would never be made and "teen" lines and features that would never be activated.

Further, NERA's claim that VoIP and PSTN services are perfect substitutes is clearly inconsistent with the opinion of the FCC, which found in its recent *Triennial Review Order on Remand* that VoIP is not a substitute for, but rather a supplement to traditional local exchange service.[42] Because VoIP adopters are likely to be "technology savvy" and customers who are particularly motivated to cut costs, these customers – when faced with higher VoIP prices – are likely to shift their usage to modes other than traditional PSTN. For example, long-distance and international callers might move their usage to peer-to-peer (computer-to-computer) services instead of PSTN not only because peer-to-peer services offer cost savings, but also because these services offer independence of geographic location similar to "non-peer" VoIP service. Long-distance customers might make more calls over their wireless phones instead of PSTN if faced with a less attractive VoIP plan. As VoIP phenomenon makes cable-based telephony more mainstream, an increasing number of consumers will subscribe to cable phone service – including cable based circuit switched telephony if VoIP telephony becomes less attractive. Therefore, NERA's assumption that "a VoIP minute suppressed is a PSTN minute gained" is incorrect.

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40 NERA's Filing, Figure 4, page 24: sum of $214, $180 and $748 (measured in millions). Note that this modification reverses modification IV of the base case.

41 NERA's Filing, ¶44.

42 *Order on Remand*, WC Docket No. 04-313, CC Docket No. 01-338 released on 2/4/2005, footnote 118.

Second, NERA selectively expands the list of revenues to count ILEC gains, but neglects to account for ILEC losses associated with a suppression of VoIP market. Because VoIP providers connect to ILEC networks, they generate for the ILECs other revenues besides reciprocal compensation (QSI scenario 1) or switched access (QSI scenario 2). Specifically, as QSI described above in footnote 20, a typical business arrangement for VoIP providers is to purchase local business service and route their traffic through local interconnection trunks.[43] Clearly, suppression of VoIP traffic would result in fewer business lines[44] and fewer interconnection facilities[45] ordered, thereby suppressing ILEC business line and interconnection revenues.

Third, NERA is improperly expanding the scope of the analysis by including secondary effects of competition rather than the direct impact of regulatory change. Specifically, intercarrier compensation revenues on IP-PSTN traffic (as well as stimulated purchases of its necessary complement, DSL) represent direct consequences of the modeled regulatory change, while access revenues on PSTN traffic is an indirect effect of competitive forces. NERA's modification simply demonstrates that the ILECs would experience a significant windfall in revenues if the competitive technology is suppressed by applying legacy intercarrier compensation regimes on emerging technologies. As QSI explained above, NERA expands the list of services for which it measures the impact to include local service and SLC revenues, but does not provide the appropriately expanded measure for total revenue, without which the generated impact cannot be properly evaluated.

For these reasons NERA's modification should be rejected.

VI. Is the NERA "DSL Correction" Valid?

In order to estimate the suppression of DSL revenues caused by a suppression of VoIP demand if access is applied to VoIP, QSI estimated DSL revenues stimulated by VoIP under both scenarios. Specifically, DSL revenues stimulated by VoIP were calculated by multiplying the DSL-based VoIP line counts, a user-adjustable input that captures DSL stimulation from VoIP[46] and DSL "price" (or average per line revenue). NERA criticizes QSI's calculation on the grounds that QSI's DSL-based VoIP lines included VoIP lines substituting special access and CLEC lines. NERA modifies the DSL revenue calculation accordingly, which results in a smaller suppression of DSL revenues from the access

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43 Such arrangement was also described on page 6 of Qwest's February 7, 2005 Ex Parte Letter in this docket (docket WC No. 03-266).

44 Even if VoIP provider orders business retail service from a CLEC, the CLEC is likely to provision these business lines using the ILECs facilities through UNE arrangements. In other words, a reduction in CLEC business lines would generate a reduction in the ILEC's UNE revenues.

45 Such as local transport trunks and entrance facilities.

46 Input labeled "% DSL-based VoIP Lines Where DSL is Ordered Because of VoIP Availability."

regime than QSI originally calculated.[47] This, in turn, increases the net impact of applying switched access charges to VoIP traffic.[48]

QSI disagrees with NERA's criticism concerning CLEC lines for two reasons. First, NERA argues that a customer migrating from CLEC voice service would likely use a CLEC-provided DSL service. This is an incorrect assumption because it is possible, if not probable, that a customer migrating from a CLEC to VoIP service might be simultaneously cutting the ties from the CLEC (a UNE based CLEC, for instance) and migrating back to the ILEC (subscribing to the ILEC's DSL service). QSI intentionally developed this calculation after observing that CLEC market share in DSL market is smaller than the CLEC share of total lines, suggesting that the ILECs might be providing a disproportionate number of DSL lines to VoIP customers. Second, NERA's specific modification removes revenues associated with CLEC-provided DSL lines twice: first by applying the ILEC share of DSL lines (similar to QSI's calculation) and again by reducing the total VoIP line count by a share of VoIP lines that substitute CLEC lines.[49]

While QSI acknowledges that its estimation regarding VoIP lines substituting special access services may have been aggressive (because some of these VoIP lines are likely to be provisioned over special access connections, rather than new DSL connections), QSI does not believe that a modification is necessary, as this adjustment would be more than offset by other updates, including those associated with issues discussed above in sections II and III. In addition, the calculation of DSL revenues stimulated by VoIP is sensitive to the assumed level of the user adjustable "stimulation factor" in QSI's study. Recent anecdotal evidence suggests that QSI's assumed 15 percent DSL stimulation factor might be too conservative. If QSI removed VoIP lines substituting special access from the calculation of DSL stimulated revenues, a 5 percentage point increase in the stimulation factor (from 15% to 20%) would almost entirely offset the effect of the special access adjustment.

For the reasons explained above NERA's modification should be rejected.

CONCLUSIONS

NERA made six modifications to QSI's algorithm that significantly increased the total impact of applying access rates to VoIP-PSTN non-local traffic. QSI concludes that in

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47 NERA's Filing, ¶48.

48 NERA's Filing Figure 4 on page 24 lists the effect of this modification as $59 million (a decrease in DSL offset). However, the impact of this modification is a $40 million decrease in DSL offset (equivalently, increase in total impact), which is the difference between DSL offset as calculated by QSI (negative $98 million, calculated from QSI model "Tab Results -Impact of Appl. Access," cells E42 minus E43) and NERA (negative $59 million, calculated from NERA model Tab "QSI Stimulation Model," cells H118 minus H119).

49 By this calculation NERA effectively assumes that CLECs provide DSL connections to 21% of DSL-based VoIP lines, which is disproportionately high compared to the CLEC share in DSL (only 7%, QSI Report, page 35, footnote 77) and CLEC share in total lines (14.9%, QSI report, page 20, footnote 35).

three cases NERA's criticism may have partial merit, specifically, section II, inclusion in the analysis VoIP traffic associated with special access, CLEC and wireless customers (only in part that refers to numerical adjustment for wireless traffic and not in the way NERA advocated); section III, NERA's removal of access charges on the DSL side of the VoIP call; and section VI, DSL revenue correction (in part that refers to VoIP lines associated with special access). In the light of the above analysis it appears that QSI's original calculations related to sections II and III were too conservative (over-estimating total impact), and QSI's calculation related to section VI was somewhat aggressive. However, because the relative size of the last item is small, the total cumulative effect of the three adjustments is likely to be a *reduction* in the overall impact.

The remaining NERA modifications and criticisms have no merit. Further, even if QSI ignores that NERA's numerical adjustments are not valid, NERA's expanded scope of the impact calculation, which included SLC and local exchange service revenues requires a different context than QSI's study: QSI's study focuses on the intercarrier compensation revenues, and thus the relevant point of comparison is between QSI's estimated impact of the regulatory change ($214 million in 2008) and total non-local intercarrier compensation revenues, comprised mostly of switched access revenue ($7,200 million)[50]. NERA's study includes in the total impact SLC and local service revenues, and thus, NERA's estimated impact of the regulatory change (over $2,000 million in 2008)[51] should be compared to the sum of total switched access, end-user access and local service revenues (over $50,000 million)[52].

In light of the above, QSI stands behind its original estimates and concludes that NERA failed to provide valid evidence that QSI's original estimates of the impact of applying access to VoIP-PSTN non-local traffic are too low. Based on NERA's critique of QSI's study, QSI further concludes that its study provides a conservative estimation of the potential impact associated with the FCC's decision on the Level 3 Forbearance Petition.

Respectfully submitted,

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Timothy Gates, Senior Vice President
QSI Consulting, Inc.
819 Huntington Drive
Highlands Ranch, CO 80126

50 ARMIS actual 2003 as explained in footnote 4.

51 NERA's Filing, ¶6.

52 ARMIS actual 2003 as explained in footnote 4.